

Remarks

Entry of this Amendment, reconsideration of the application and allowance of all claims are respectfully requested. Claim 1-3, 7, 8, 10, 11, 16-18, 22, 23, 25, 26 & 31 remain pending.

By this paper, independent claims 1, 16 & 31 are amended to more particularly point out and distinctly claim certain aspects of the present invention. In particular, these claims cover the subject matter of dependent claims 4-6, 9, 19-21 & 24, canceled herein. In addition, claims 12-15, 27-30 & 32 are canceled herein without prejudice. These claims are believed well covered by the remaining claims of record. Support for the amended independent claims can be found through out the application, including the canceled dependent claims, and paragraphs [0019], [0054], [0059], [0060] & [0092]-[0094] of the application. Thus, no new matter is added to the application by any amendment presented.

In the Office Action, claims 1-4, 9-19 & 24-32 were rejected under 35 U.S.C. §102(e) as being anticipated by Deierling (U.S. Patent No. 6,239,847; hereinafter Deierling), while claims 5-8 & 20-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Deierling. These rejections are respectfully, but most strenuously, traversed to any extent deemed applicable to the claims presented herewith, and reconsideration thereof is requested.

Initially, Applicants note that the amendments submitted herewith encompass the subject matter of canceled claims 5 & 6 as well as canceled claims 20 & 21. Therefore, the anticipation rejection is believed moot relative to the subject matter now claimed. For example, a careful reading of Deierling fails to uncover any discussion of a technique for dynamically loading a second set of filter coefficients into a programmable horizontal filter, while a first set of filter coefficients are in use in horizontally filtering pixel values, as recited in the independent claims presented herewith.

More particularly, in Applicants' amended independent claims a technique for filtering pixels of video frames is presented which includes: obtaining pixel values of video frames of a plurality of video frames, and employing a programmable horizontal filter to programmably, spatially horizontally filter the pixel values of the video frames using a first set of filter coefficients. The technique further includes dynamically loading a second set of filter coefficients into the programmable horizontal filter during the horizontally filtering of pixel

values using the first set of filter coefficients, and then switching the horizontal filter to horizontally filtering pixel values using the dynamically loaded second set of filter coefficients upon reaching a frame boundary between video frames of the plurality of video frames. In accordance with Applicants' invention, new filter coefficients can be dynamically loaded on the fly into the horizontal filter, and then may be switched in to the filter at frame boundaries. Using this technique, different sets of coefficients can be dynamically switched in by a user on a per frame basis if desired.

An "obviousness" determination requires an evaluation of whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art. In evaluating claimed subject matter as a whole, the Federal Circuit has expressly mandated that functional claim language be considered in evaluating a claim relative to the prior art. Applicants respectfully submit that the application of these standards to the independent claims presented leads to the conclusion that the recited subject matter would not have been obvious to one of ordinary skill in the art based on the applied patent. Specifically, Applicants respectfully submit that numerous aspects of their amended independent claims are simply not taught or suggested by the Deierling patent.

Deierling describes a two-pass multi-dimensional data scaling arrangement and method. The sequence of elements of the video data stream is filtered in a first dimension using a programmable scaling filter to provide a first set of scaled data having a first scaled dimension and having at least a second dimension. During a subsequent field time of the video and for each sequence of the first set of scaled data in a second dimension, the first set of scaled data is filtered using the programmable scaling filter to provide a set of two-dimensionally scaled data having at least two dimensions. (See Abstract of Deierling.)

Initially, Applicants respectfully submit that a careful reading of Deierling fails to uncover any teaching or suggestion of a facility for dynamically loading a second set of filter coefficients into a programmable horizontal filter while the programmable horizontal filter is filtering pixel values using a first set of filter coefficients. In this regard, Applicants reference Fig. 3 of Deierling. In Fig. 3, a seven-tap filter 303 is shown receiving the necessary coefficients to perform the filtering and scaling operation from a five-bank coefficient tables item 304, which is controlled by the timing and scaling ratios section 305 using a bank select signal 306.

Applicants respectfully submit that this logic comprises a conventional seven-tap filter which requires five-bank coefficients. As explained at column 3, line 57 – column 4, line 53 of Deierling, the multiple banks are necessary to allow for pixel variations. The particular bank is selected as shown in the chart at column 4. As one example, these banks of coefficients would comprise one set of filter coefficients as the term is used in the present application. A careful reading of Deierling fails to uncover any teaching or suggestion that one or more banks of coefficients, or the complete set of banks of coefficients, can be dynamically changed by loading a new set of filter coefficients into the programmable filter, as recited by Applicants' independent claims. Since no facility is provided to accomplish this functionality, Applicants respectfully submit that the filtering technique of their independent claims would not have been obvious to one of ordinary skill in the art based upon Deierling.


Still further, Applicants recite functionality for switching the programmable horizontal filter at a frame boundary from using the first set of filter coefficient to using the dynamically loaded second set of filter coefficients. A careful reading of Deierling fails to uncover any discussion of switching between filter coefficient sets at a frame boundary, let alone the switching to a second set of filter coefficients dynamically loaded into the programmable horizontal filter while the horizontal filter was filtering pixel values using a first set of filter coefficients. In this regard, Applicants respectfully submit that switching between preloaded banks of coefficients as taught by Deierling occurs on a per pixel basis, depending on pixel variations, and does not imply switching between one set of filter coefficients and another set of filter coefficients at a frame boundary as recited by Applicants in the claims presented.

For the above reasons, Applicants respectfully submit that the independent claims presented herewith patentably distinguish over the teachings of Deierling. Reconsideration and withdrawal of the rejections based thereon is therefore respectfully requested. The dependent claims are believed allowable for the same reasons as the independent claims, as well as for their own additional characterizations.

For at least the above reasons, Applicants respectfully submit that all claims are in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, Applicants' undersigned attorney invites the Examiner to telephone him at the number provided.

Respectfully submitted,


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